

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 121402 Roll No. 

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**B.Tech.**

(SEM.IV) THEORY EXAMINATION 2013-14

**MICROPROCESSORS**

Time : 3 Hours

Total Marks : 100

Note :- Attempt all Sections.

**SECTION-A**

1. Attempt all parts : (10×2=20)
- (a) Explain carry flag and overflow flag in case of 8086.
  - (b) Explain the role of temporary registers in 8085.
  - (c) What is program status word ?
  - (d) Explain the functions of ALU in 8085 microprocessor.
  - (e) What is the role of ALE pin in 8085 microprocessor ?
  - (f) What is DMA ?
  - (g) What is the function of accumulator ?
  - (h) What do you mean by machine cycle ?
  - (i) Explain PUSHF instruction.
  - (j) Give the priority of each interrupt in 8085 microprocessor.

**SECTION-B**

2. Attempt any three parts : (3×10=30)
- (a) Write a short note on addressing modes of 8086 microprocessor.
  - (b) Explain the architecture of 8085 microprocessor in brief, with the help of neat diagram.

- (c) Describe PROCEDURE and MACRO in 8086 microprocessor.
- (d) Draw and explain the block diagram of USART 8251 A.
- (e) Draw and explain pin diagram of ADC 0808/0809. What is the structure of its control word ?

### SECTION-C

**Note:** Attempt **all** questions. (5×10=50)

- 3. Attempt any **one** part :
  - (a) Write an 8085 assembly program to find the largest number in a block of data. The length of the block is in memory location 3200 H and data block starts from memory location 3201 H. Store the maximum number in register B. Assume the data to be 8 bit unsigned binary numbers.
  - (b) Draw the pin diagram of 8085. Explain the function of pins related to interrupts.
- 4. Attempt any **one** part :
  - (a) Explain the following instructions of 8085 microprocessor with the help of suitable examples :
    - (i) DAA
    - (ii) SIM
    - (iii) CALL 2000 H
  - (b) Explain the architecture of 8085 microprocessor with the help of neat diagram.
- 5. Attempt any **one** part :
  - (a) Write a short note on interrupts used in 8086 microprocessor.

- (b) Draw the pin diagram of 8088 microprocessor. Also explain the pins of 8088 microprocessor used in maximum mode.
6. Attempt any **one** part :
- (a) Explain I/O interfacing techniques in 8086 microprocessor.
- (b) Draw and explain the block diagram of 8255 A (PPI). What is the role of control word in the operation of this IC ?
7. Attempt any **one** part :
- (a) What are the different data communication types supported by USART 8251 A ? How can these different types be used by programmer ?
- (b) What are the various types of A/D conversion techniques ? Which method does ADC 0808/0809 family supports ? Draw the control word of ADC 0808.